

MATERIALS AND METHODS FOR SIMULATING FOCAL SHIFTS IN VIEWERS USING LARGE DEPTH OF FOCUS DISPLAYS

Abstract of the Disclosure

5 A large depth of focus (DOF) display provides an image in which the
apparent focus plane is adjusted to track an accommodation (focus) of a viewer's
eye(s) to more effectively convey depth in the image. A device is employed to
repeatedly determine accommodation as a viewer's gaze within the image
changes. In response, an image that includes an apparent focus plane
corresponding to the level of accommodation of the viewer is provided on the
10 large DOF display. Objects that are not at the apparent focus plane are made to
appear blurred. The images can be rendered in real-time, or can be pre-rendered
and stored in an array. The dimensions of the array can each correspond to a
different variable. The images can alternatively be provided by a computer
controlled, adjustable focus video camera in real-time.